

Appl. No. 10/509,058
Amdt. dated January 8, 2009
Reply to Office action of October 15, 2008

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-20. (Canceled)

21. (Currently amended) A reforming system for a fuel cell, the system comprising

an evaporating device (6) for evaporating a raw fuel (13) and for delivering the evaporated raw fuel (13) to a reforming unit,

at least two pumps for conducting fuel to the evaporating unit and for precisely metering the raw fuel (13) that is conducted into the evaporating device (6),

a control unit (8),

said at least two pumps including at least one metering pump (3) whose rpm is regulated by means of the control unit (8) so as to precisely meter the quantity of raw fuel which is delivered to the evaporating device, the reforming system having no further control structure between the metering pump and the evaporating device ; and

at least one monitoring device serving to monitor the metered quantity of the raw fuel (13) which passes through the at least one regulated metering pump.

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22. **(Previously presented)** The reforming system of claim 21, wherein at least one electric fuel pump serves as the metering pump.

23. **(Previously presented)** The reforming system of claim 21, wherein a high-pressure pump driven by an electric motor (7) serves as the metering pump.

24. **(Previously presented)** The reforming system of claim 21, wherein the two pumps (2, 3) are connected in series, the second pump (3) being a metering pump while the first pump (2) operates continuously.

25. **(Previously presented)** The reforming system of claim 24, wherein the first and second pumps (2, 3) are electric fuel pumps, and wherein the second electric fuel pump (3) is regulated by means of a timing module (14).

26. **(Previously presented)** The reforming system of claim 24, wherein the first pump is an electric fuel pump (2) acting as a prefeed pump, and the second pump is a high-pressure pump (3).

27. **(Previously presented)** The reforming system of claim 21, wherein the monitoring device is a pressure sensor (12), which measures the counterpressure in the evaporating device (6).

28. **(Currently amended)** The reforming system of claim 21, wherein the monitoring device monitors the current consumption of the at least one metering pump (3).

29. **(Previously presented)** The reforming system of claim 21, wherein the monitoring device is a flow sensor (17), which detects the metering quantity into the evaporating device (6).

30. **(Currently amended)** The reforming system of claim 21, wherein the monitoring device is an rpm sensor (20), which measures the rpm of the at least one metering pump (3).

31. **(Previously presented)** A method for regulating the metering quantity in an electric fuel pump (29) in a reforming system of claim 21, comprising the steps of ascertaining a variable with the monitoring device, which variable serves as a controlled variable for the regulation, and utilizing an rpm sensor to determine the rpm of the metering pump (29) as a controlling variable for the regulation, the rpm being set by means of a timing module (14).

32. **(Previously presented)** The method of claim 31, wherein the step of ascertaining a variable comprises measuring the counterpressure with a pressure sensor (12), which counterpressure serves as a controlled variable for the regulation.

33. **(Previously presented)** The method of claim 31, wherein the pulse width ratio of the trigger signal of the timing module (14) serves as a controlling variable, utilizing an rpm sensor (20) to determine the rpm of the metering pump, and comparing a characteristic curve of the rpm as a function of the current used under load, the characteristic curve being stored in memory in the control unit (8), with the rpm measured by the rpm sensor (20), and varying the rpm as a controlled variable by way of the pulse width ratio of the trigger signal of the timing module if there is a deviation between the characteristic curve and the measured rpm.

34. **(Previously presented)** A method for regulating the metering quantity of a metering pump in a reforming system of claim 21, wherein the metering quantity serves as a controlled variable, and a characteristic delivery curve of the metering pump (3) is stored in memory in the control unit (8), which characteristic delivery curve indicates a set-point value for the metering quantity as a function of the rpm of the metering pump (3), and upon a deviation in the metering quantity from the set-point value, detected by a flow sensor (17), the rpm is varied as the controlling variable.

35. **(Previously presented)** A method for monitoring a metering pump (3) in a reforming system of claim 21 used in a motor vehicle, comprising outputting a warning signal by means of a drive-information system upon a deviation of a variable, ascertained by the monitoring device, from a set-point value.

36. **(Previously presented)** The method of claim 35, wherein the warning signal is output by the driver-information system if a monitoring device for monitoring the current consumption of the metering pump (3) detects that a defined maximum or minimum current limit has been exceeded or undershot for longer than a defined length of time.

37. **(Previously presented)** The method of claim 35, wherein the a warning signal is output by a driver-information system if the rpm of the metering pump, measured by the rpm sensor (20), deviates from the set-point value defined by a characteristic curve.

38. **(Previously presented)** The method of claim 34, further comprising outputting the a warning signal by a driver-information system if the metering quantity measured by a flow sensor (17) deviates from its set-point value.

39. **(Previously presented)** The method of claim 35, wherein in addition to the warning signal, in the case of motor vehicle, hazard-warning lights are activated.

40. **(Previously presented)** The method of using of a reforming system of claim 21, for metering a raw fuel to a fuel cell in a fuel cell vehicle.